ACUPUNCTURE
Today

The Ratio That Matters When It Comes to Chronic Disease

By Louis Miller, DC, MS

In recent years, patients have been told to increase consumption of omega-3 and omega-6 fats in their diet. Unlike other types of fats, the human body cannot manufacture these fats on their own and need to be consumed in the diet. In other words, they are considered "essential." Let's examine these important fats and why their ratio is so important when it comes to chronic disease.

Omega-3 and Omega-6 Fats

Omega-3 fats are vital components of cell membranes, where they construct cellular fluidity and stability. They also convert a plethora of chemical mediators called prostaglandins.[1] Omega-3 fatty acids consist primarily of alpha-linolenic acid (ALA), eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA).

Clinical research has shown omega-3 fats play several important roles: assisting in promoting proper fetal development, normalizing hormone production, acting as an anti-inflammatory and cardio-protective agent, and improving insulin sensitivity.[2]

Similarly, omega-6 fatty acids [primarily from linoleic acid (LA) and arachidonic acid (AA)] also provide tremendous health benefits. However, our current Westernized diet supplies an overabundance of these omega-6 fats, resulting in an imbalance. This imbalance increases our body's production of inflammatory agents, most notably prostaglandin E2, interleukin-2, interleukin-6, tumor necrosis factor, and thromboxane A2.[2]

Because there is a limit on the amount of omega-3 and omega-6 fats our body can utilize, they end up competing for space by using the same set of enzymes, ultimately preventing the production of anti-inflammatory substances.[3]

Westernized Diets & the Rise of Processed Food

Westernized diets are very high in (omega-6 fat) oils: peanut oil, soybean oil, safflower oil, cottonseed oil, vegetable oil, sunflower oil, and soybean oil. Even so-called "healthy foods" are full of omega-6 fats [e.g., falafel, granola, salad dressings, protein bars, nuts (in oil) and various foods prepped in such oils, such as eggs and stir-fried foods).

In contrast, Westernized diets contain few sources of omega-3 fatty acids, primarily via fat of deep cold-water fish such as seaweed, sardines, salmon, anchovies, herring and mackerel. There are non-fish sources as well and include flaxseeds, chia seeds, certain green leafy vegetables and walnuts, which can act as a precursor (as alpha-linolenic acid) to omega-3 fatty acids.

Due to the prevalence of overconsumption of omega-6 oils and diminished consumption of omega-3 fats, the proportion of each becomes out of balance. The omega-6 to omega-3 ratio dangerously falls to a 1:10 to 1:25 range – compared to a 1:2 to 1:5 worldwide average.[4]

This important ratio is rarely discussed by health care providers and is the main contributor to a pro-inflammatory state comorbid with chronic conditions including type 2 diabetes, myofascial pain, heart disease, inflammatory arthritis, inflammatory bowel disease, cancer and obesity.[4]

Balancing Omega-6 / Omega-3

The good news is reversing this ratio to a healthier one is possible by eating less food prepared in the aforementioned omega-6 oils and eating more foods higher in omega-3 fatty acids. This type of dietary eating pattern has gained considerable popularity lately and been termed "Paleo," reminiscent of the Paleolithic era — a period of time from 10,000 to 2.5 million years ago.

This nutritional plan is based on the presumption that our ancestors were nourished primarily by wild plants, fish, eggs, nuts and animal foods, with omega-3 fatty acids abundantly present.[6] Although there has been much controversy and debate regarding the accuracy and practices of our ancient ancestors, there is little doubt that such a modification of dietary patterns resulting in a decrease in omega-6 fatty acid (and increase in omega-3 fatty acid) consumption has resulted in many beneficial effects in terms of various diseases: cardiovascular disorders, different cancers (breast, colorectal, prostate), asthma, inflammatory bowel disease, rheumatoid arthritis, and osteoporosis, among others.[5]

Diagnosis and Treatment

Although a 24-hour food recall is a great tool to get patients generally aware of their eating habits, a laboratory assessment is specifically needed to accurately determine this ratio. Specific blood analysis is currently available and best suited to assess and gauge one's health risk related to their omega-6 to omega-3 ratio.

In my clinical practice, patients who know their omega-6 to omega-3 ratio are more motivated to improve it. The prescription to improve their status is simple: Take a high-quality omega-3 supplement (in the form of fish oil and/or marine plant oil) and restrict consumption of omnipresent processed food. The promising news is that with the appropriate lifestyle changes, I have observed not only improved labs, but also significant symptomatic improvement in as little as four weeks!

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